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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/584,846

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EXAMINER

GRABOWSKI, KYLE ROBERT

ART UNIT

PAPER NUMBER

3725

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/584,846	Applicant(s) DAVIS ET AL.	
	Examiner Kyle Grabowski	Art Unit 3725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 January 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-5, 7-13, 16-21, 25-31, 33, and 35, are rejected under 35 U.S.C. 102(b) as being anticipated by Hutton et al. (US 4,033,059).

3. In respect to claim 1, Hutton et al. disclose a security device comprising: a security device comprising a substrate 31 having a reflective portion which is provided with a raised line structure, the line structure defining a plurality of segments 32 and 36, each segment being formed by a respective set of substantially parallel raised lines 33 and 37 (Fig. 7), the lines of at least three segments extending in different directions (Fig. 16, shows that three segments can be utilized), each line being formed by or carrying an ink which does not extend fully into the spaces between the lines or which is sufficiently translucent between the lines so as not to obscure the reflective surface between the lines, wherein each segment causes incident light to be reflected non-diffractively in a variable manner as the angle of incidence changes. (Col. 13, 14-28)

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4. In respect to claims 2-5, 7-11, and 16, the parallel lines may be comprise straight lines, having the same width (Col. 13, 15-21); the parallel lines may also be discontinuous and extend in different directions in each segment, the segments abutting each other and defining geometric shapes that are nested within the others and may altogether for an "image" such as alphanumeric indicia (i.e. 61, 62, 64, Fig. 16);

5. In respect to claims 12 and 13, the raised line structure is produced by an inked intaglio (embossing) process wherein the ink contrasts with the color or the substrate (Col. 3, 30-33).

6. In respect to claims 17-19, the frequency of the lines in lines per inch is preferably between 100 and 200 (Col. 8, 28-31), which when the lines and spacing between lines being substantially equal (Col. 4, 55-63), corresponds to a line width and spacing width each having an identical width between 0.0025 and 0.005 inches (63.5 - 127 microns), which of course also corresponds to a line width to space ratio of 1:1.

7. In respect to claim 20, the raised line structure extends beyond the reflective portion if one selects a portion within the line structure to denote the "reflective portion"

8. In respect to claim 21, the reflective portion extends beyond the raised line structures on border 60 (Fig. 16).

9. In respect to claims 25-26 and 29, the paper may be a paper document of value (Col. 8, 35), the raised line structure comprising a security device adhered by the intaglio process. Also banknotes are widely known documents of value to employ

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intaglio printing thereon (Col. 1, 20). Furthermore, denoting the document of value as a banknote is only an intended use of the invention.

10. In respect to claims 29-31, 33, and 35, Hutton et al. disclose the manufacture of the security element for the reasons stated above. The intaglio process is preformed with an intaglio plate having engraved ink-bearing recesses which define the line structure (Col. 15, 38 – Col. 16, 5).

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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13. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hutton et al. (US 4,033,059) in view of Bayha (US 3,471,172). Hutton et al. substantially disclose the claimed subject matter for the reasons stated above including that the sections may be any desired shape (Col. 14, 21-26) but do not explicitly disclose that the different segments are of the same shape however Bayha teaches a similar security device which utilizes segments of raised lines with similar reflection characteristics of the present invention wherein hexagons shapes comprise different segments with different raised line directions (Col. 4, 30-41; Fig. 3). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the security device taught in Hutton et al. with equal shapes, for example, hexagons, in view of Bayha to provide shapes that allow for precise positions of accuration rotation and discrete angular value for each unit (Bayha; Col. 4, 30-41).

14. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hutton et al. (US 4,033,059) in view of Adamczyk (US 2004/0025728). Hutton et al. substantially disclose the claimed subject matter for the reasons stated above but do not disclose parts of the raised line portion being uninked however Adamczyk teaches that specifications of the engraving plate (0018) can yield varying ink widths (0028), resulting for example, in the cross section shown in Figure 4, which features a line embossment that provides uninked portions on its outer bounds. It would have been obvious to one or ordinary skill in the art at the time the invention was made to provide the security device taught in Hutton et al. with less ink in the intaglio plate, or to vary specifications of the intaglio plate, to provide for an embossed line with uninked regions

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in view of Adamczyk to save ink consumption which is one of the major aims of the invention (0007). The claim would have also been obvious because a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary common sense.

15. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hutton et al. (US 4,033,059) in view of Adamczyk et al. (US 2004/0050269). Hutton et al. substantially disclose the claimed subject matter for the reasons stated above including that the paper (reflective surface) may be printed with a light ink as long as it contrasts with the intaglio ink (Col. 14, 31-36) but do not disclose that the reflective portion of the paper substrate may contain, for example, a metallic ink, however Adamczyk et al. teaches that a metallic ink can be used for a background print in a similar invention (0024) that utilizes inked intaglio printing. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the light ink taught in Hutton et al. as a metallic ink in view of Adamczyk et al. to provide an additional anti-forgery effect that is difficult to imitate (Adamczyk et al., 0024).

16. Claims 22-24, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hutton et al. (US 4,033,059) in view of Mayer et al. (US 2003/0145747). Hutton et al. substantially disclose the claimed subject matter for the reasons stated above but do not disclose a printed border formed in register with the raised line structure using the

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same printing plate however Mayer et al. teaches a method of intaglio using both relieflike elements and flat elements on the same printing plate to produce the relieflike and flat elements in register (0010-0011; Fig. 4); the flat printed elements 2 bordering the raised relieflike lines 5 (Fig. 1); It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the security device taught in Hutton et al. with additional features on the printing plate to produce two superimposed pieces of information in exact register from the same printing plate in view of Mayer et al. to hinder attempts at reproduction (Mayer et al., 0015). Mayer et al. also teaches an advantage of altering the light/dark contrast between the relieflike and flat elements and it would have been obvious to one of ordinary skill in the art at the time the invention was made to

17. Claims 27 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hutton et al. (US 4,033,059) in view of Heckenkamp et al. (US 5,433,807). Hutton et al. substantially disclose the claimed invention for the reasons stated above except for the security device being a separate entity applied to the document of value however Heckenkamp et al. teaches that the transfer method is a known method for applying security devices to banknotes (Col. 5, 1-28) and it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the security device taught in Hutton et al. with a means for transfer via the transfer method in view of Heckenkamp et al. for many advantages well known in the art for the transfer method for example, producing the security device and banknote separately, and bonding the

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device securely to the bank note such that attempts at removal would destroy the document.

18. Claims 34 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hutton et al. (US 4,033,059). Hutton et al. substantially disclose the claimed invention for the reasons stated above but do not explicitly disclose the lines of at least five segments extending in different directions however Hutton et al. does disclose a plurality of three segments, wherein the difference in angles is 60 degrees (Col. 47-54) and further, that a discernable contrast can be appreciated at angles as low as 30 degrees (Col. 14, 37-51) and therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to make lines of at least six segments (and therefore at least five) extending in different directions (i.e. 30 degrees apart: 0, 30, 60, 90, 120, and 150 degrees) as Hutton et al. suggests is possible (Col. 14, 40-62).

19. Claims 1-5, 7-13, 16-21, 25-31, 33, and 35, are additionally rejected under 35 U.S.C. 103(a) as being unpatentable over Hutton et al. (US 4,033,059). Hutton et al. discloses all the claimed subject matter for the reasons stated above but does not explicitly disclose any degree of specular reflectivity of the paper substrate however it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a highly specular paper, such as a high gloss paper, since it has been held to be within the general skill of a worker in the art to select a known material

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on the basis of its suitability for the intended use as a matter of obvious design choice.

In re Leshin, 125 USPQ 416.

20. Claims 6, 14-15, 22-24, 32, 34, and 36, are rejected for the same reasons as stated above.

Response to Arguments

21. Applicant's arguments filed on 01/12/09 have been fully considered but they are not persuasive.

22. In re claims 1-5, 7-13, 16-21, 25-31, 33, and 35, the applicant argues that "Hutton fails to disclose a substrate having a specularly reflective surface" and that rather "Hutton discloses substrates that reflect in a diffusive matter, if they reflect light". The examiner respectfully disagrees. As broadly claimed, a specularly reflective surface is a surface having *at least some* specular reflection (i.e. not *perfectly* diffusive). The examiner contends that the paper substrate disclosed by Hutton inherently discloses at least a degree of specular reflection, and thus a specularly reflective surface. The only singular instance when Hutton fails to disclose a specularly reflective surface is when the paper substrate is *absolutely* diffusive, and the examiner doesn't believe that Hutton suggests this in anyway (this being a much more extreme example than an at least partially specular surface). Hutton furthers discloses providing surface-printed ground patterns (to the substrate) which would impart at least a degree of specularity.

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23. Additionally, claims 6, 14-15, 22-24, 32, 34, and 36, are argued by the applicant to be allowable for the same reasons stated above and the examiner respectfully disagrees for the reasons stated above.

24. Although it is believed that Hutton discloses all the claimed subject matter, including some degree of inherent specular reflection, an obvious selection of material choice such as high gloss paper definitively provides specularly.

Conclusion

25. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kyle Grabowski whose telephone number is (571)270-3518. The examiner can normally be reached on Monday-Thursday, every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dana Ross can be reached on (571)272-4480. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kyle Grabowski/
Examiner, Art Unit 3725

/Dana Ross/
Supervisory Patent Examiner, Art
Unit 3725